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PLANTS NEW TO OR PREVIOUSLY UNREPORTED FROM MISSOURI

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As a result of continued exploration of Missouri by the writer during 1938 and 1939, many species, new to or previously unrecorded from the state, have been added to the flora. A number of them show considerable extensions of range, while some are additions to Gray's Manual.

All specimens mentioned below may be found in the Herbarium of Field Museum of Natural History.

DRYOPTERIS CLINTONIANA (D. C. Eaton) Dowell, var. AUSTRALIS Wherry. Around outlet of Blue Spring, tributary to Big Barren Creek, T25N, R1W, Sect. 14, 10 mi. northwest of Bennett, Carter County, May 22, 1938, *J. A. Steyermark 5333*.

According to Mr. C. A. Weatherby of the Gray Herbarium, the fern may be tentatively referred to this status until there has been more collecting of this particular group of ferns in the South.

If one attempts to key out this specimen according to Small's Ferns of the Southeastern States,¹ he might place it in the category *Dryopteris celsa* (W. Palmer) Knowlton, Palmer & Pollard, on account of the slight and gradual amount of dimorphism between sterile and fertile fronds and the narrowly or broadly lanceolate outline of the leaf-blades with appressed teeth on the segments. However, *Dryopteris celsa* is known only from the coastal plain and adjacent Piedmont region. Otherwise, the fern might fit into *Dryopteris Clintoniana* var. *australis* (*D. australis*), except for the fact that it does not have the

¹ Small, J. K., Ferns of the Southeastern States, pp. 261-262. Lancaster, Pa. 1938.

conspicuously dimorphic sterile and fertile fronds which are supposed to characterize that species.

Until more material from the southern states has accumulated for comparison, there is no means of knowing how much variation occurs in the dimorphism of the sterile and fertile fronds, and, therefore, how trustworthy this character is.

This is the first record for Missouri of the occurrence of this group of ferns related to *Dryopteris Clintoniana*.

SCIRPUS CAMPESTRIS Britton, var. PALUDOSUS (A. Nelson) Fern. Wet swaly ground bordering salt spring and spring branch of Elk Lick Spring, in valley of Heath's Creek, Sect. 17, 3 mi. southwest of Ridge Prairie, Saline County, Oct. 6, 1938, *J. A. Steyermark* 21587.

CAREX WOODII Dewey. Swampy meadow along spring branch along Bennett Bayou, Sect. 30, 5. mi. south of Caulfield, Howell County, April 29, 1938, *J. A. Steyermark* 5237.

This species has been recorded by Mackenzie for Missouri in North American Flora, but this is the first specimen the writer has seen. Dr. F. J. Hermann identified the specimen.

LEMNA MINIMA Philippi. Margin of Tupelo Gum Pond, Irish Wilderness, Sect. 4, Oregon County, May 23, 1938, *J. A. Steyermark* 5365; sink-hole pond, between Moody and South Fork, Sect. 7, 2 mi. south of South Fork, Howell County, April 28, 1938, *J. A. Steyermark* 5222. These specimens were identified by Dr. Lawrence E. Hicks.

TRADESCANTIA CANALICULATA Raf. × T. OZARKANA Anderson & Woodson. Wooded slopes of limestone bluffs along White River, west of Big Cedar Hollow, Sect. 13, 4 mi. south of Ocie, 6 mi. southeast of Protem, Taney County, April 30, 1938, *J. A. Steyermark* 5267 and 5268; limestone bluffs at entrance to Patsy Holly, tributary to Little North Fork of White River, T22N, R15W, Sect. 31 and 32, 2½ mi. south of Theodosia, Ozark County, June 11, 1939, *J. A. Steyermark* 27091.

This is the first recorded occurrence of this hybrid. Both the parent species were growing in the immediate vicinity. The specimens had the very glaucous foliage of *T. canaliculata* but the broad leaves of *T. ozarkana*. The calyces were mostly glabrous or sparsely non-glandular-hairy as in *T. canaliculata*.

ISOTRIA VERTICILLATA (Willd.) Raf. This rare species, previously unrecorded for the state, has been found in the Herbarium of Field Museum, collected by *Savage and Shull* from the vicinity of Poplar Bluff, Butler County.

Both species of *Isotria* are now known from Missouri.

GLINUS LOTOIDES L. This member of the *Aizoaceae* has been col-

lected in several counties of western Missouri from alluvial soils. It forms flat spreading patches. Alluvial muddy shore behind zone of *Salix nigra* around Goose Lake, in bottoms of Grand River, Sect. 22, 2 miles south of Clinton, near route No. 13, Henry County, Sept. 26, 1938, *J. A. Steyermark* 7483; open exsiccated ground in black willow-buttonbush thickets, around Stultz Lake, in valley of Marmaton River, T36N, R32W, Sect. 34, 4 miles northwest of Nevada, Vernon County, Sept. 29, 1938, *J. A. Steyermark* 9816; wet open alluvial soil around end of Horseshoe Lake, in bottoms of Marais des Cygnes River, Sect. 29, 1½ miles southwest of Papinsville, Vernon County, Oct. 1, 1938, *J. A. Steyermark* 9959. Also recorded by B. F. Bush from Jackson County in correspondence to the writer.

SILENE STELLATA (L.) Ait. f., var. **scabrella** (Nieuwl.), comb. nov. *Evactoma stellata* var. *scabrella* Nieuwl.¹

The pubescent-stemmed variety is the common type throughout Missouri and adjacent territory. One collection from Butler County, in southeastern Missouri, has glabrous or nearly glabrous stems, and may be referred to typical *Silene stellata*, which is common over the eastern portion of the range of the species.

PHILADELPHUS PUBESCENS Lois. Common on north-facing wooded limestone bluffs, ¾ mile southeast of Southwest City, McDonald County, May 31, 1938, *J. A. Steyermark* 5573.

This species of wild Mock Orange has been found in adjacent Arkansas and Oklahoma. Repeated search has been made for it in the southern Missouri Ozarks, but only recently has the writer been able to find it, and in this particular locality it is quite abundant.

HEUCHERA PARVIFLORA Bartl. var. *RUGELII* (Shuttlw.) Rosendahl, Butters & Lakela.

Previous collections now referred to this species had been placed in a hybrid category (*H. puberula* × *H. americana* var. *hirsuticaulis*) by Dr. Rosendahl and Dr. Butters.² Further collections of this species, made by the writer from the locality in Wayne County, convinced him that they belonged to the *Heuchera parviflora* var. *Rugelii* category, and subsequent study by Dr. Rosendahl served to verify this determination.

The species is found in southern Illinois and this is its first record west of the Mississippi River.

The latest collection made by the writer is from crevices of limestone bluffs, Hall's Bluff, along St. Francis River, south of Davidson's

¹ Am. Mid. Nat. 3: 58. 1913.

² See Steyermark, J. A., Plants New to Missouri. RHODORA 40: 253. 1938.

Blue Spring, south of Kime, Wayne County, Sept. 1, 1938, *J. A. Steyermark* 6342.

ROSA SUFFULTA f. *ALBA* Rehder. Swale barrens along Miami Creek, 2 miles southeast of Merwin, T41N, R33W, Sect. 13, Bates County, June 2, 1938, *J. A. Steyermark* 5708.

The white-flowered form was the common type in this locality.

LESPEDeza CUNEATA G. Don. Field along route no. 61, 4½ miles northeast of Tanner, Scott County, Sept. 17, 1938, *J. A. Steyermark* 6635.

This species has been previously recorded as an introduction in the United States by Dr. Fernald, who found it extensively in various parts of Virginia. The Missouri record, the first from so far west, serves to show how quickly some plants may become established after a brief and recent introduction from a foreign country. The plants, with their tall, bushy, and much-branched stems, covered with crowded, dull dusky-green leaves appressed to the branches, easily stand out as distinct from any of the native American species. The pale creamy-yellow flowers have two broad purplish-rose streaks on the inside of the center at the base of the standard, and are much smaller than those of our native cream- or yellow-colored *Lespedeza capitata* or *Lespedeza hirta*.

LATHYRUS LATIFOLIUS L. Prairie swale along railroad tracks, along route No. 63, in valley, 6 miles north of West Plains, Howell County, June 11, 1939, *J. A. Steyermark* 27031.

The Everlasting Pea was definitely established in this locality.

VICIA DASycARPA Ten. Prairie swale along railroad, along route No. 63, in valley, 6 miles north of West Plains, Howell County, June 11, 1939, *J. A. Steyermark* 27030.

This is a rarely introduced species from Europe which has become well established at the locality in Howell County. The strongly gibbous calyx, colored bluish-purple around one end, together with the narrow purple corollas and nearly glabrous stems and leaves stamp this as a distinct and easily recognized species.

DESMODIUM OBTUSUM (Muhl.) DC. × *D. MARILANDICUM* (L.) DC.

Hybrid plants between these two species were found in Texas and Wright Counties. The petioles were nearly as long as those of *D. marilandicum* but the petioles and stems were as pubescent as in *D. obtusum*. Various intergradations of petiole-length, pubescence, and size and shape of leaf-blade occurred. Both parent species were growing in the immediate vicinity.

Wooded sandstone slopes in ravine tributary to Roubidoux Creek, just west and south of Plato, T32N, R12W, Sect. 2, Texas County, August 20, 1937, *J. A. Steyermark 25030*; upland cherty woods, 6 miles northeast of Manes, Wright County, August 20, 1937, *J. A. Steyermark 24995*.

OXALIS VIOLACEA L. f. *ALBIDA* Fassett. This pure-white-flowered form was collected on a prairie along railroad tracks along route No. 24, 2 miles northwest of Rensselaer, Ralls County, May 14, 1939, *J. A. Steyermark 22471*.

EVONYMUS RADICANS Sieb. var. *ACUTA* Rehd. Base of wooded slopes along creek in Possum Hollow, Sect. 28, 2½ miles northwest of Wappapello, Wayne County, Sept. 2, 1938, *J. A. Steyermark 6449*.

This cultivated ornamental plant was well established in this locality.

ARALIA NUDICAULIS L. On talus of wooded limestone bluffs along Mississippi River, T56N, R3W, Sect. 12, 1 mile southeast of Ilasco, Ralls County, May 12, 1939, *J. A. Steyermark 22343*; three-fourths way up east-facing limestone bluff-slopes along Mississippi River, T55N, R3W, Sect. 18 and 20, three-quarters to one mile southeast of Ashburn, Pike County, May 13, 1939, *J. A. Steyermark 22371*.

Along the Mississippi River bluffs of northeastern Missouri in Ralls and Pike Counties this species forms large stands at the base of wooded limestone slopes. In this and nearby areas along the Mississippi it is associated with other northern relics, such as *Sambucus pubens* and *Dodecatheon amethystinum*, none of which are known anywhere else in the state.

DIOSPYROS VIRGINIANA var. *PLATYCARPA* Sarg., f. *ATRA* Sarg. Upland woods near clubhouse, on top of wooded limestone slopes along Osage River, T37N, R28W, Sect. 6, 2½ miles west of Taberville, St. Clair County, Sept. 27, 1938, *J. A. Steyermark 9614*.

So far as the writer is informed, no other collection of this form of the persimmon has been recorded since it was originally described on the basis of fruiting material from Oklahoma. It may be well, therefore, to give additional data on the tree.

The depressed-globose fruit is colored dark purple- or plum-blue and is glaucous. The skin of the fruit is firmer and tougher than that of typical *Diospyros virginiana*. Several trees were noted in this area and all had the fruit similarly colored, although in adjacent territory were normally colored specimens. The trees averaged about 6 meters tall and had leaves which were mostly pubescent on the lower surface and obtuse to subcordate at the base.

Seeds were sent to the Missouri Botanical Garden and to the Arnold Arboretum for propagative purposes.

DODECATHEON AMETHYSTINUM Fassett. Shaded limestone ledges on bluffs along the Mississippi River, between Lover's Leap and Riverside Cemetery, T56N, R4W, Sect. 27, $\frac{1}{2}$ mile southeast of Hannibal, Marion County, May 15, 1938, *J. A. Steyermark* 5318.

This species was originally collected from this locality by Rev. John Davis, but in order to learn whether or not the station was still extant, the writer visited the area, accompanied by Dr. Paul C. Standley. Several bluff areas along the Mississippi River were explored, including Riverview Park and Lover's Leap, but only after a diligent search on the bluffs between Lover's Leap and Riverside Cemetery was the writer able to locate the plants, of which two only were seen. The plants were growing on shaded uppermost ledges of limestone bluffs, just below the top. As is characteristic of *D. amethystinum*, no red color appeared at the base of the leaves, and the capsules, which were beginning to mature, were of a slender linear-oblong type, yellowish-brown, and of a papery texture. Moreover, the calyx-lobes were short, the umbels few-flowered, and the color of the corolla a deep rose or rose-purple. In addition, the leaves of *D. amethystinum* have a pale bluish-green or even glaucous appearance on the upper surface, and this is in marked contrast to the yellowish-green leaves of *D. Meadia*. All the characters above noted point to the recognition of *D. amethystinum* in the field as distinct from *D. Meadia*. The writer first observed typical *D. amethystinum* in the Driftless Area of Wisconsin with Dr. Fassett, and was again impressed at the Missouri locality with the distinctness of this species.

The Hannibal area is the only one in Missouri where *D. amethystinum* has been found. In this area, likewise, are found such northern relics as *Sambucus pubens* and *Aralia nudicaulis*, mingled with a large number of Ozarkian species. In fact, the Ozark element in the flora along the rugged country bordering the Mississippi River north to and somewhat beyond Hannibal, is good evidence that this portion of northeastern Missouri is a "driftless" area and that it escaped glaciation together with the Ozarks. The "driftless" nature of this area is, moreover, enhanced by the occurrence of *Dodecatheon amethystinum* which is so characteristic a species in the famous Driftless Area of Wisconsin.

MIMULUS ALATUS Ait. f. ALBIFLORUS House. This white-flowered form was collected from alluvial woods along the Gasconade River, T40N, R9W, Sect. 15, $2\frac{1}{2}$ miles northeast of Vienna, Maries County, August 29, 1937, *J. A. Steyermark* 25590.

CHELONE GLABRA L. f. TOMENTOSA (Raf.) Pennell. This form of the Turtlehead, with the leaves tomentose on the lower surface, was collected at the base of small limestone bluffs along Mill Branch, tributary to Barren Fork, Sect. 21, 4 miles west of Iberia, Miller County, Sept. 19, 1938, *J. A. Steyermark* 6803.

PENSTEMON COBAEA Nutt. Common on top of open shaly limestone outcrops on mound along Miami Creek, 2 miles southeast of Merwin, T41N, R33W, Sect. 13, Bates County, June 2, 1938, *J. A. Steyermark* 5715.

For many years it has been known that the only representative of the *Penstemon Cobaea* group in Missouri belonged to the var. *purpureus* Pennell. This variety, characterized by its rich purple color, is one of the most beautiful of all species of *Penstemon*, and is limited to the White River region of Missouri and Arkansas.

Typical and less showy *Penstemon Cobaea* Nutt., with pale purplish and white corolla, has a much larger range, being found from Nebraska to Texas. The eastern limits for this species bordering Missouri, as shown by Pennell¹ on Map 62 in his Scrophulariaceae of Eastern Temperate North America, are easternmost Kansas and southeastern Nebraska. Thus, the area in Bates County, Missouri, where the writer found typical *Penstemon Cobaea* Nutt., is a slight range-extension eastward for the species. Both the typical species and its variety may now be credited to the state, which is the only one to contain both varieties of this beautiful species.

LONICERA DIOICA L. Hanging over and near top of north-facing limestone bluffs along spring branch from Montauk Spring, Montauk State Park, Dent County, May 5, 1939, *J. A. Steyermark* 22126; on north-facing bluffs along creek tributary to Crooked Creek, Montauk State Park, Dent County, May 5, 1939, *J. A. Steyermark* 22132. Material so determined by the writer has been verified by Prof. Alfred Rehder and Mr. E. J. Palmer of the Arnold Arboretum.

For the last three years, the writer has collected material from this locality, but each time was either too early or too late to obtain good flowering specimens which are so essential in this group for certain determination. Altogether six different trips were made to Montauk State Park in vain, and on two of them the writer, while passing through this portion of the Ozarks at night, had to resort to collecting the material by flashlight. Three separate trips this spring finally resulted in the successful collecting of the flowers. However, the

¹ Pennell, F. W., The Scrophulariaceae of Eastern Temperate North America. Acad. Nat. Sci., Phila., Monog. 1, p. 248. 1935.

period of anthesis is so short—one week or less (typical of many vernal-flowering species)—that almost weekly trips to the area are essential for checking on the flowering.

At any rate, the corollas of the Missouri specimens above noted are strongly gibbous at the base and are greenish-yellow tinged with rose or purple color on the outside of the corolla-tube. The leaves and stems are wholly glabrous. In all these respects the plants are characteristic *Lonicera dioica*. The chief difference lies in the fact that the lower surface of the leaves on the Missouri specimens is not nearly as glaucous as in typical *L. dioica*. How much taxonomic value lies in this slight difference, cannot at present be stated, and further study may show the lack of a decided glaucous character on the lower surface of the Missouri specimens to be correlated with other differences.

LOBELIA CARDINALIS f. ALBA (A. Eaton) St. John. Occurring with typical *Lobelia cardinalis* in moist places at base of north-facing limestone bluffs along Fiery Fork Creek, Sect. 3, 2½ miles southwest of Barnumtown, Camden County, Sept. 22, 1938, *J. A. Steyermark* 6950; exsiccated low meadow in valley of Mill Creek, T26N, R7E, Sect. 9, 1¾ miles southwest of Wappapello, in Butler County, August 29, 1938, *J. A. Steyermark* 6254.

ASTER DRUMMONDII Lindl. × A. CORDIFOLIUS L.

Specimens referred to this hybrid category were collected in Jefferson and Atchison Counties. In these plants the leaves were cordate as in *A. cordifolius*, but the stems, petioles, and lower surface of the leaves were covered with a short pubescence characteristic of *A. Drummondii*. Both the parent species occurred in the immediate vicinity.

ERIGERON RAMOSUS (Walt.) BSP. f. DISCOIDEUS (Robbins) Fern. Collected in Vernon, Bates, Carroll, and Benton Counties. Open places along roadside, 2 miles northwest of Lamar, Vernon County, June 1, 1938, *J. A. Steyermark* 5630; cherty slopes above limestone bluffs along Osage River, T40N, R23W, Sect. 13, 2½ miles west of Warsaw, Benton County, June 3, 1938, *J. A. Steyermark* 5780; shale openings in oak-hickory woods, bordering valley of Tater Creek, 2 miles north of Coloma, T55N, R24W, Sect. 25, Carroll County, June 25, 1938, *J. A. Steyermark* 6167.

In all cases noted, the rayless form was growing with the species.

LAPSANA COMMUNIS L. On shaded gravelly banks along Jack's Fork of Current River, around bridge over route No. 17, Sect. 36, 5½ miles southeast of Arroll, Texas County, June 23, 1939, *J. A. Steyermark* 27168.

Plants belonging to this species were well established in this locality and had spread over a radius of a few hundred feet.

FIELD MUSEUM OF NATURAL HISTORY
Chicago, Illinois.

SPERGULARIA IN NORTH AND SOUTH AMERICA

RUTH P. ROSSBACH

(Continued from page 83)

7. *S. RUBRA* (L.) J. & C. Presl (PLATE 589, FIGS. 6a–6c). Annual or short-lived perennial: *caudex* simple, bearing 3– ∞ diffuse or prostrate stems which in turn may branch several times, 3–33 cm. long; *internodes of stem below the inflorescence* slender, glabrous, rarely sparsely glandular-pubescent, 2–35 mm. long, 0.5 mm. or less in diameter; *leaves* fascicled, linear-filiform, strongly mucronate, scarcely fleshy, 3.5–25 mm. long, 0.4–1.2 mm. wide, usually glabrous, or sometimes glandular-pubescent; *stipules* conspicuous, triangular-acuminate, usually shining, but sometimes dull, white or reddish, 2.5–5 mm., usually 3.5–5 mm. long; *inflorescence* a leafy, many-flowered cyme with *internodes* usually sparsely glandular-pubescent, not markedly differentiated from the lower parts of the stem; *bracts* duplicating leaves at the lower nodes, often smaller at the upper, sometimes only 2 mm. long; *sepals* lanceolate, usually glandular-pubescent, often densely so, 3.5–5 mm., usually 4–4.5 mm. long; *petals* pink, ovate, 2.4–3.8 mm. long, always shorter than the sepals; *stamens* 6–10, usually 10 but when less in number aborted ones are often present; *styles* 3, 0.6–0.8 mm. long, divided to base; *mature capsules* 3.5–5 mm. long, equaling the calyx; *fruiting pedicels* filiform, glandular-pubescent, reflexed or not, the lower 3.5–13 mm. long; *seeds* dark brown, rounded or if crowded in the capsule, truncate at the summit and angular in outline, deeply sculptured in closely interwoven, vermiform pattern with minute, dark, hard papillae scattered over the surface, most numerous on and often confined to the swollen rim, 0.4–0.6 mm. long, not winged.—Fl. Čechica, 94 (1819); C. Presl, Fl. Sic. 160 (1826); Gray, Man. 65 (1848), also through ed. 4., and Gen. ii. 28, pl. 108 (1849); Torrey, Pacific R. R. Report—Botany, iv. 70 (1857), probably not as to plants described (Corte Madera collection was of *S. media* and *S. macrotheca*, *q. v.*);¹ Syme, English Bot. ed. 3. ii. 129, pl. 254 (1873), good figure; Torrey, Wilkes Explor. Exped. xvii, Botany, 247 (1874), probably not at all as to plants described, which include a mixture of presumably all the common species of the Pacific coast; Chapman, Fl. So. U. S. ed. 2, 48 (1884), not as to plants described which are *S. marina*, *q. v.*; Robins. in Proc. Am. Acad. xxix. 309 (1894); Robins. in

¹ Martinez collection has not been found.